What Is <u>Claimed Is</u>:

1.   A disk drive system having an array controller that receives a write command from a host, comprising:

a write stack drive to receive said write command and to store write

5   operations within said write command with write stack operations on a non-volatile cache memory; and

a normal drive to receive said write command and to execute said write operations within said write command.

2.   The disk drive system of claim 1, wherein said non-volatile cache

10   memory acts as a stack memory.

3.   The disk drive system of claim 1, wherein said write command stores data in a storage media.

4.   The disk drive system of claim 1, wherein said non-volatile cache memory comprises a plurality of tracks.

15   5.   The disk drive system of claim 1, wherein said write stack drive sends a complete command when said write stack operations are completed.

6.   The disk drive system of claim 1, wherein said write stack drive comprises metadata to reflect data within said write stack drive.

20   7.   A disk drive that executes write commands on a storage media coupled to a normal drive, comprising:

a write stack drive comprising a non-volatile cache memory having a plurality of tracks, wherein said plurality of tracks store data from write stack operations for said write commands; and

25   a metadata file to identify the data stored within said write stack drive.

12

8.   The disk drive of claim 7, wherein said non-volatile cache memory is a stack memory.

9.   The disk drive of claim 7, wherein said write stack drive mirrors said normal drive.

10.   The disk drive of claim 7, further comprising a marker sector for each write stack operation stored within said write stack drive.

11.   The disk drive of claim 10, wherein said marker sector includes a valid data flag.

12.   The disk drive of claim 7, wherein said write commands are received from an array controller coupled to said disk drive.

13.   A system for executing a write command, comprising:
        an array controller coupled to a disk drive;
        a write stack drive within said disk drive to receive said write command, wherein said write stack drive comprises a non-volatile cache stack memory to perform write stack operations for said write command;
        a metadata file to indicate data within said stack memory; and
        a normal drive within said disk drive to execute write operations for said write command.

14.   The system of claim 13, wherein said stack memory comprises line tracks.

15.   The system of claim 13, further comprising a host to initiate said write command to said array controller.

16.   The system of claim 13, wherein said write stack operations include marker sectors.

17.   A method for executing a write command using a disk drive,
comprising:
        receiving said write command at a write stack drive;
        performing write stack operations for write operations within said
5   write command on a non-volatile cache memory within said write stack
drive; and
        executing said write operations within a normal drive with data
stored in said write stack operations.

18.   The method of claim 17, further comprising responding with a
10   command complete upon completion of said write stack operations.

19.   The method of claim 18, wherein said responding comprises sending
said command complete from said write stack drive.

20.   The method of claim 17, further comprising receiving said write
command from an array controller.

15   21.   The method of claim 17, further comprising updating a metadata
file when said write stack operations are performed.

22.   The method of claim 17, wherein said performing comprises writing
data from said write command to a line track within said cache memory.

23.   The method of claim 22, further comprising positioning a pointer to
20   another track when said writing is completed.

24.   A method for writing data to a disk drive, comprising:
        receiving a write command at an array controller;
        receiving said write command at a write stack drive from said array
controller;
25   performing write stack operations for said write command on a non-
volatile cache memory within said write stack drive, wherein said write

14

stack operations store said data on tracks of said non-volatile cache memory;

receiving said write command at a normal drive;

executing write operations at said normal drive with said data; and

5   indicating to said array controller that said write command is complete.

25.   The method of claim 24, wherein said indicating comprises sending a command complete from said write stack drive.

26.   The method of claim 24, further comprising positioning said line

10   track within said write stack drive.

27.   The method of claim 24, further comprising updating a metadata file that indicates current data within said write stack drive.

28.   A method for writing data to a normal drive within a disk drive, comprising:

15   receiving said data at a write stack drive;

performing a write stack operation to store said data within a non-volatile cache memory within said write stack drive; and

sending said data to said normal drive.

29.   The method of claim 28, further comprising committing said data to

20   an LRU cache.

30.   The method of claim 28, further comprising executing said write command at said normal drive.

31.   The method of claim 28, further comprising receiving said data at said normal drive.